AMENDMENTS TO THE CLAIMS

1-2. (Canceled)

3. (Currently Amended) ~~The~~ A program selection and execution device ~~as defined in Claim 1, wherein~~ comprising:

a selecting object displaying means for displaying an image on a display screen, which image comprises a selecting object having mapped textures indicating program contents to respective planes of a three-dimensional rotation body object, which plural planes being disposed at regular intervals with respect to a center axis, being located in a three-dimensional virtual space;

a rotation display control means for giving a rotation display control signal to display an image which comprises the selecting object rotating with the center axis as a center of rotation in the three-dimensional virtual space, to the selecting object displaying means;

a selection input means for receiving a selection input to select a program;

a selection plane judging means for judging which plane among the plural planes composing the three-dimensional rotation body object faces front on a display screen when the selection input is inputted from the selection input means;

a correspondence table holding means for holding information which indicates a correspondence relationship between the plural planes composing the three-dimensional rotation body object and the programs;

a program deciding means for judging the program which corresponds to the plane judged by the selection plane judging means based on the information held in the correspondence table holding means, so as to decide a program to execute;

a program executing means for executing the program decided by the program deciding means; and

the rotation display control means ~~is~~ being provided with a holding means for holding information to rotate the selecting object in a prescribed pattern, and ~~gives~~ providing the rotation display control signal to the selecting object displaying means on the basis of the information held in the holding means.

4. (Canceled)

5. (Currently Amended) The program selection and execution device as defined in ~~any of Claims 1 to 4~~ Claim 3, wherein a counter means is provided, which counts the number of times [[a]] when the plane ~~turned forward, which is~~ faces the front among the plural planes composing the three-dimensional rotation body ~~object, object~~ is switched ~~as~~ while the selecting object is rotated on a display screen, so as to output counting information, and

the selection plane judging means judges [[a]] the plane which faces front on the display screen on the basis of the counting information outputted by the counter means.

6. (Currently Amended) The program selection and execution device as defined in ~~any of Claims 1 to 4~~Claim 3, wherein the selection plane judging means judges [[a]] the plane ~~turned forward~~ which faces front on the basis of the depth information which is obtained when the selecting object displaying means displays the selecting object on a screen.

7. (Currently Amended) The program selection and execution device as defined in ~~any of Claims 1 to 4~~Claim 3, wherein the selection plane judging means judges a plane ~~turned forward~~ which faces front on the display screen ~~on the basis of~~ in accordance with the rotation angle information which indicates [[a]] an angle ~~made by~~ which the selecting object ~~being~~ has rotated from an initial state.

8. (Previously Presented) The program selection and execution device as defined in Claim 3, wherein a screen display switching means is provided, which switches a screen display so that the execution display screen is displayed at the program execution, when a selected program has an execution display screen.

9-10. (Canceled)

11. (Currently Amended) ~~The~~ A data selection and execution device ~~as defined in Claim 9, wherein~~ comprising:

a selecting object displaying means for displaying an image on a display screen, which image comprises a selecting object having mapped textures indicating data contents to respective planes of a three-dimensional rotation body object, which plural surfaces being disposed at regular intervals with respect to a center axis, being disposed in a three-dimensional virtual space;

a rotation display control means for giving a rotation display control signal to display an image in which the selecting object rotates with the center axis as a center of rotation in the three-dimensional virtual space, to the selecting object displaying means;

a selection input means for receiving a selection input to select a program;

a selection plane judging means for judging which plane among the plural planes composing the three-dimensional rotation body object faces front on a display screen when the selection input is inputted from the selection input means;

a first correspondence table holding means for holding information which indicates a correspondence relationship between the plural planes composing the three-dimensional rotation body object and the programs;

a data deciding means for judging the data which corresponds to the plane judged by the selection plane judging means based on the information held in the first correspondence table holding means, so as to decide a data to open;

a second corresponding table holding means for holding information which indicates a corresponding information between the data and the program to open the data;

a program deciding means for judging the program to open the data which is decided by the data deciding means based on the information held in the second correspondence table holding means, so as to decide a program to execute;

a program executing means for executing the program decided by the program deciding means, so as to open the data decided by the data deciding means; and

the rotation display control means ~~is~~ being provided with a holding means for holding information to rotate the selecting object in a prescribed pattern, and ~~gives~~ providing the rotation

display control signal to the selecting object displaying means on the basis of the information held in the holding means.

12. (Canceled)

13. (Currently Amended) The data selection and execution device as defined ~~in any of Claims 9 to 12~~Claim 11, wherein a counter means is provided, which counts the number of times ~~a~~ when the plane ~~turned forward, which is~~ which faces front, among the plural planes composing the three-dimensional rotation body object, is switched ~~as~~ while the selecting object is rotated on [[a]] the display screen, ~~so as to~~ output ~~counting~~ count information, and

the selection plane judging means judges [[a]] the plane which faces front on the display screen ~~on the basis of~~ in accordance with the counting information outputted by the counter means.

14. (Currently Amended) The data selection and execution device as defined ~~in any of Claims 9 to 12~~ Claim 11, wherein the selection plane judging means judges [[a]] the plane ~~turned forward~~ which faces front on the basis of depth information which is obtained when the selecting object ~~displaying~~ display means displays the selecting object on a display screen.

15. (Currently Amended) The data selection and execution device as defined ~~in any of Claims 9 to 12~~ Claim 11, wherein the selection plane judging means judges [[a]] the ~~plane turned forward~~ which faces front on the display screen ~~on the basis of~~ in accordance with the rotation angle information which indicates [[a]] an angle ~~made by~~ which the selecting object ~~being~~ has rotated from an initial state.

16. (Previously Presented) The data selection executing device as defined in Claim 11, wherein a screen display switching means is provided, which switches a screen display so that the execution display screen is displayed at the program execution when a program to be executed has an execution display screen.

17. (Previously Presented) The data selection executing device as defined in Claim 11, wherein the selecting object displaying means maps, when data corresponding to each surface of the three-dimensional rotation body object are moving image data, an image obtained by reproducing the moving image data to a corresponding surface as a texture.

18. (Original) The data selection and execution device as defined in Claim 17, wherein the selecting object displaying means maps a moving image obtained by reproducing moving image data to a corresponding plane which faces front on a display screen among plural planes composing the three-dimensional rotation body object as a texture, while maps still pictures extracted from the moving image obtained by reproducing the moving image data to corresponding planes which are not turned forward on the display screen among plural planes composing the three-dimensional rotation body object as textures.

19. (Previously Presented) The data selection executing device as defined in Claim 11, which further comprises a data reproducing-displaying means, which, when data corresponding to each plane of the three-dimensional rotation body object are sound data, moving image data, or moving image data accompanying sound data, performs reproduction and display of corresponding data in conjunction with a display of the selecting object, and which performs reproduction and display so that, when a plane which faces front the most on the display screen is switched from a first plane to a second plane adjacent thereto by the rotation of the selecting object, reproduction and display of data corresponding to the first plane is faded out, which reproduction and display of data corresponding to the second plane is faded in.

20. (Previously Presented) The data selection executing device as defined in Claim 11, wherein there is provided a data reproducing-displaying means, which, when data corresponding to each plane of the three-dimensional rotation body object are data including sound data, performs reproduction and display of corresponding data in conjunction with a display of the selecting object and which has a first audio data audio source corresponding to the first plane which faces front the most on the display screen and the second audio data audio source position

corresponding to the second plane adjacent the first plane, according to the rotation of the selection object, and performs reproduction and display of the first and the second audio data in accordance with the movements of the positions of the first and the second planes.

21. (Withdrawn) An image display device comprising:

an image receiving means for receiving an input signal transmitted via broadcast or a network and outputting an input image signal;

a memory means for holding the input image signal;

a memory input/output control means for writing the input image signal to the memory means, outputting a memory control signal to the memory means on the basis of area cut-out information indicating a position when an area employed as a texture is cut out from the input image signal, and reading a partial image signal from the memory means;

a parameter separating means for separating parameter information, which is constituted by three-dimensional coordinate information and the area cut-out information, into the area cut-out information and the three-dimensional coordinate information, and outputting the area cut-out information to the memory input/output control means, while outputting the three-dimensional coordinate information to an object position deciding means;

an object position deciding means for locating a three-dimensional object in a three-dimensional virtual space from the three-dimensional coordinate information and outputting object coordinate information of the three-dimensional object in the three-dimensional virtual space;

a perspective projection transformation means for performing perspective projection of the object coordinate information onto a display projection plane and transforming this to display projection plane coordinate information;

a rasterizing means for mapping the partial image signal to a subscribed plane of the three-dimensional object based on the projection plane coordinate information, and generating and outputting a three-dimensional image signal;

a frame memory means for holding the three-dimensional image signal and outputting an output image signal at a prescribed timing; and

an image displaying means for displaying the output image signal.

22. (Withdrawn) The image display device as defined in Claim 21, wherein the parameter information inputted by the parameter separating means varies in time series.

23. (Canceled)

24. (Withdrawn) An image display device comprising:

an image receiving means for receiving an input signal which is transmitted via broadcast or a network and is constituted by a prescribed number of partial images, and outputting an input image signal;

a memory means for holding the input image signal;

a memory input/output control means for writing the input image signal to the memory means, outputting a memory control signal to the memory means on the basis of area cut-out information which indicates a position when an area employed as a texture is cut out from the input image signal and corresponds to a prescribed number of partial images, and reading a partial image signal from the memory means;

a parameter separating means for separating parameter information, which is constituted by three-dimensional coordinate information corresponding to the prescribed number of partial images and the area cut-out information, into the area cut-out information and the three-dimensional coordinate information, and outputting the area cut-out information to the memory input/output control means, while outputting the three-dimensional coordinate information to an object position deciding means based on parameter output control information;

an object position deciding means for locating a three-dimensional object in a three-dimensional virtual space from the three-dimensional coordinate information and outputting object coordinate information of the three-dimensional object in the three-dimensional virtual space;

a perspective projection transformation means for performing perspective projection of the object coordinate information onto a display projection plane and transforming this to display projection plane coordinate information;

a rasterizing means for outputting the parameter output control information to the parameter separating means for the number of times corresponding to the prescribed number of partial images when mapping the partial image signal to a subscribed plane of the three-dimensional object based on the projection plane coordinate information, and generating and outputting a three-dimensional image signal;

a frame memory means for holding the three-dimensional image signal and outputting an output image signal at a prescribed timing; and

an image displaying means for displaying the output image signal.

25. (Withdrawn) The image display device as defined in Claim 24, wherein the parameter information inputted by the parameter separating means varies in time series.

26. (Canceled)

27. (Withdrawn) An image display device comprising:

an image receiving means for receiving an input signal which is transmitted via broadcast or a network and is constituted by a prescribed number of partial images, and outputting an input image signal;

an area separating means for separating an area from the input image signal on the basis of area cut-out information which indicates a position when an area employed as a texture is cut out from the input image signal and corresponds to a prescribed number of partial images, and outputting an image signal for memory storage;

a memory means for holding the image signal for memory storage;

a memory input/output control means for writing the image signal for memory storage to the memory means, outputting a memory control signal to the memory means on the basis of area cut-out information, and reading a partial image signal from the memory means;

a parameter separating means for separating parameter information, which is constituted by three-dimensional coordinate information corresponding to the prescribed number of partial images and the area cut-out information, into the area cut-out information and the three-dimensional coordinate information, and outputting the area cut-out information to the memory input/output control means, while outputting the three-dimensional coordinate information to an object position deciding means based on parameter output control information;

an object position deciding means for locating a three-dimensional object in a three-dimensional virtual space from the three-dimensional coordinate information and outputting object coordinate information of the three-dimensional object in the three-dimensional virtual space;

a perspective projection transformation means for performing perspective projection of the object coordinate information onto a display projection plane and transforming this to display projection plane coordinate information;

a rasterizing means for outputting the parameter output control information to the parameter separating means for the number of times corresponding to the prescribed number of partial images when mapping the partial image signal to a subscribed plane of the three-dimensional object based on the projection plane coordinate information, and generating and outputting a three-dimensional image signal;

a frame memory means for holding the three-dimensional image signal and outputting an output image signal at a prescribed timing; and

an image displaying means for displaying the output image signal.

28. (Withdrawn) An image display device comprising:

an image receiving means for receiving an input signal which is transmitted via broadcast or a network and is constituted by a prescribed number of partial images, and outputting an input image signal;

a memory means for holding the input image signal;

a memory input/output control means for writing the input image signal to the memory means, outputting a memory control signal to the memory means on the basis of area cut-out

information indicating a position when an area employed as a texture is cut out from the input image signal, and reading a partial image signal from the memory means;

an image analyzing means for judging a prescribed number from the input image signal and outputting area number information;

a parameter generating means for generating parameter information constituted by three-dimensional coordinate information and the area cut-out information, and outputting the area cut-out information to the memory input/output control means while outputting the three-dimensional coordinate information to an object position deciding means based on parameter output control information;

an object position deciding means for locating a three-dimensional object in a three-dimensional virtual space from the three-dimensional coordinate information and outputting object coordinate information of the three-dimensional object in the three-dimensional virtual space;

a perspective projection transformation means for performing perspective projection of the object coordinate information onto a display projection plane and transforming this to display projection plane coordinate information;

a rasterizing means for outputting the parameter output control information to the parameter generating means for the number of times corresponding to the prescribed number of partial images when mapping the partial image signal to a subscribed plane of the three-dimensional object based on the projection plane coordinate information, and generating and outputting a three-dimensional image signal;

a frame memory means for holding the three-dimensional image signal and outputting an output image signal at a prescribed timing; and

an image displaying means for displaying the output image signal.

29. (Withdrawn) An image display device comprising:

an image receiving means for selectively receiving an input signal which is transmitted via broadcast or a network and is constituted by a prescribed number of partial images, and outputting an input image signal based on channel information;

a memory means for holding the input image signal;

a memory input/output control means for writing the input image signal to the memory means, outputting a memory control signal to the memory means on the basis of area cut-out information which indicates a position when an area employed as a texture is cut out from the input image signal and corresponds to a prescribed number of partial images, and reading a partial image signal from the memory means;

a parameter separating means for separating parameter information, which is constituted by three-dimensional coordinate information corresponding to the prescribed number of partial images, the area cut-out information, and channel correspondence information indicating correspondence information between an object and a channel, into the area cut-out information and the three-dimensional coordinate information, and outputting the area cut-out information to the memory input/output control means, outputting the three-dimensional coordinate information to an object position deciding means, as well as outputting the channel correspondence information to a channel deciding means based on parameter output control information;

an object position deciding means for locating a three-dimensional object in a three-dimensional virtual space from the three-dimensional coordinate information, and outputting object coordinate information of the three-dimensional object in the three-dimensional virtual space, as well as outputting object allocation order information by the object coordinate information according to a user's input;

an object position comparing means for comparing positions of respective objects by the object allocation order information and outputting selection object information in which an object is selected on a prescribed condition to the channel deciding means;

a channel deciding means for deciding a channel that corresponds to a selected object from the selection object information and the channel correspondence information and outputting channel information;

a perspective projection transformation means for performing perspective projection of the object coordinate information onto a display projection plane and transforming this to display projection plane coordinate information;

a rasterizing means for outputting the parameter output control information to the parameter separating means for the number of times corresponding to the prescribed number of partial images when mapping the partial image signal to a subscribed plane of the three-dimensional object based on the projection plane coordinate information, and generating and outputting a three-dimensional image signal;

a frame memory means for holding the three-dimensional image signal and outputting an output image signal at a prescribed timing; and

an image displaying means for displaying the output image signal and the input image signal outputted from the image receiving means, switching therebetween.

30. (Withdrawn) The image display device as defined in Claim 29, wherein the object position deciding means selects a plane which is nearest from a view.

31. (Withdrawn) An image display device comprising:

a first image receiving means for receiving a first input signal transmitted via broadcast or a network and outputting a first input image signal constituted by a prescribed number of partial images;

a second image receiving means for selectively receiving a second input signal transmitted via broadcast or a network and outputting a second input image signal based on channel information;

a memory means for holding the first input image signal;

a memory input/output control means for writing the first input image signal to the memory means, outputting a memory control signal to the memory means on the basis of area cut-out information which indicates a position when an area employed as a texture is cut out from the input image signal and corresponds to a prescribed number of partial images, and reading a partial image signal from the memory means;

a parameter separating means for separating parameter information, which is constituted by three-dimensional coordinate information corresponding to the prescribed number of partial images, the area cut-out information, and channel correspondence information indicating

correspondence information between an object and a channel, into the area cut-out information and the three-dimensional coordinate information, and outputting the area cut-out information to the memory input/output control means, outputting the three-dimensional coordinate information to an object position deciding means, as well as outputting the channel correspondence information to a channel deciding means based on parameter output control information;

an object position deciding means for locating a three-dimensional object in a three-dimensional virtual space from the three-dimensional coordinate information, and outputting object coordinate information of the three-dimensional object in the three-dimensional virtual space, as well as outputting object allocation order information by the object coordinate information according to a user's input;

an object position comparing means for comparing positions of respective objects by the object allocation order information and outputting selection object information in which an object is selected on a prescribed condition to the channel deciding means;

a channel deciding means for deciding a channel that corresponds to a selected object from the selection object information and the channel correspondence information and outputting channel information;

a perspective projection transformation means for performing perspective projection of the object coordinate information onto a display projection plane and transforming this to display projection plane coordinate information;

a rasterizing means for outputting the parameter output control information to the parameter separating means for the number of times corresponding to the prescribed number of partial images when mapping the partial image signal to a subscribed plane of the three-dimensional object based on the projection plane coordinate information, and generating and outputting a three-dimensional image signal;

a frame memory means for holding the three-dimensional image signal and outputting a three-dimensional output image signal at a prescribed timing;

an enlargement/deformation means for subjecting the partial image signal to enlarging and deforming processing to output an enlarged-deformed partial image signal;

an image switching means for switching the three-dimensional output image signal and the enlarged-deformed partial image signal as a prescribed timing to output an output image signal; and

an image displaying means for displaying the output image signal and the second input image signal, switching therebetween.

32. (Withdrawn) A channel selection device comprising:

an image receiving means for receiving an input signal transmitted via broadcast or a network, selecting a channel based on selection channel information outputted from a channel deciding means, and outputting an input image signal;

a memory means for holding the input image signal;

a memory input/output control means for writing the input image signal to the memory means, and outputting a memory control signal to the memory means and reading partial image signal from the memory means on the basis of area cut-out information inputted from a correspondence table holding means;

a selecting object displaying means for displaying an image on a display screen, in which a selecting object wherein partial images selected that indicate channel contents are mapped as textures to respective planes of a three-dimensional rotation body object, plural planes of which being disposed at regular intervals toward a central axis, is disposed in a three-dimensional virtual space;

a rotation display control means for giving a rotation display control signal to display an image in which the selecting object is rotated about the central axis as a center of rotation in the three-dimensional virtual space;

a selection input means for receiving a selection input to select a program;

a selection plane judging means for judging which plane of the plural planes composing the three-dimensional rotation body object faces front on a display screen when the selection input is inputted from the selection input means;

a correspondence table holding means for holding information which indicates a correspondence relationship among plural planes composing the three-dimensional rotation body

object, texture information of partial images corresponding to respective channels, and area cut-out information for generating the partial images corresponding to respective channels based on area information parameter outputted externally; and

a channel deciding means for judging what channel corresponds to the plane judged by the selection plane judging means based on the information held in the correspondence table holding means, deciding a channel to display by switching, and outputting selection channel information to the image receiving means.

33. (Withdrawn) The channel selection device a defined in Claim 32, wherein a parameter separating means which separates an area parameter from the input signal is provided when the area information parameter is inputted being multiplexed on the input signal.

34. (Previously Presented) The program selection and execution device as defined in Claim 5, wherein a screen display switching means is provided, which switches a screen display so that the execution display screen is displayed at the program execution, when a selected program has an execution display screen.

35. (Previously Presented) The program selection and execution device as defined in Claim 6, wherein a screen display switching means is provided, which switches a screen display so that the execution display screen is displayed at the program execution, when a selected program has an execution display screen.

36. (Previously Presented) The program selection and execution device as defined in Claim 7, wherein a screen display switching means is provided, which switches a screen display so that the execution display screen is displayed at the program execution, when a selected program has an execution display screen.

37. (Previously Presented) The data selection executing device as defined in Claim 13, wherein a screen display switching means is provided, which switches a screen display so that

the execution display screen is displayed at the program execution when a program to be executed has an execution display screen.

38. (Previously Presented) The data selection executing device as defined in Claim 14, wherein a screen display switching means is provided, which switches a screen display so that the execution display screen is displayed at the program execution when a program to be executed has an execution display screen.

39. (Previously Presented) The data selection executing device as defined in Claim 15, wherein a screen display switching means is provided, which switches a screen display so that the execution display screen is displayed at the program execution when a program to be executed has an execution display screen.

40. (Previously Presented) The data selection executing device as defined in Claim 13, wherein the selecting object displaying means maps, when data corresponding to each surface of the three-dimensional rotation body object are moving image data, an image obtained by reproducing the moving image data to a corresponding surface as a texture.

41. (Previously Presented) The data selection executing device as defined in Claim 14, wherein the selecting object displaying means maps, when data corresponding to each surface of the three-dimensional rotation body object are moving image data, an image obtained by reproducing the moving image data to a corresponding surface as a texture.

42. (Previously Presented) The data selection executing device as defined in Claim 15, wherein the selecting object displaying means maps, when data corresponding to each surface of the three-dimensional rotation body object are moving image data, an image obtained by reproducing the moving image data to a corresponding surface as a texture.

43. (Previously Presented) The data selection executing device as defined in Claim 13, which further comprises a data reproducing-displaying means, which, when data corresponding to each plane of the three-dimensional rotation body object are sound data, moving image data, or moving image data accompanying sound data, performs reproduction and display of corresponding data in conjunction with a display of the selecting object, and which performs reproduction and display so that, when a plane which faces front the most on the display screen is switched from a first plane to a second plane adjacent thereto by the rotation of the selecting object, reproduction and display of data corresponding to the first plane is faded out, which reproduction and display of data corresponding to the second plane is faded in.

44. (Previously Presented) The data selection executing device as defined in Claim 14, which further comprises a data reproducing-displaying means, which, when data corresponding to each plane of the three-dimensional rotation body object are sound data, moving image data, or moving image data accompanying sound data, performs reproduction and display of corresponding data in conjunction with a display of the selecting object, and which performs reproduction and display so that, when a plane which faces front the most on the display screen is switched from a first plane to a second plane adjacent thereto by the rotation of the selecting object, reproduction and display of data corresponding to the first plane is faded out, which reproduction and display of data corresponding to the second plane is faded in.

45. (Previously Presented) The data selection executing device as defined in Claim 15, which further comprises a data reproducing-displaying means, which, when data corresponding to each plane of the three-dimensional rotation body object are sound data, moving image data, or moving image data accompanying sound data, performs reproduction and display of corresponding data in conjunction with a display of the selecting object, and which performs reproduction and display so that, when a plane which faces front the most on the display screen is switched from a first plane to a second plane adjacent thereto by the rotation of the selecting object, reproduction and display of data corresponding to the first plane is faded out, which reproduction and display of data corresponding to the second plane is faded in.

46. (Previously Presented) The data selection executing device as defined in Claim 13, wherein there is provided a data reproducing-displaying means, which, when data corresponding to each plane of the three-dimensional rotation body object are data including sound data, performs reproduction and display of corresponding data in conjunction with a display of the selecting object and which has a first audio data audio source corresponding to the first plane which faces front the most on the display screen and the second audio data audio source position corresponding to the second plane adjacent the first plane, according to the rotation of the selection object, and performs reproduction and display of the first and the second audio data in accordance with the movements of the positions of the first and the second planes.

47. (Previously Presented) The data selection executing device as defined in Claim 14, wherein there is provided a data reproducing-displaying means, which, when data corresponding to each plane of the three-dimensional rotation body object are data including sound data, performs reproduction and display of corresponding data in conjunction with a display of the selecting object and which has a first audio data audio source corresponding to the first plane which faces front the most on the display screen and the second audio data audio source position corresponding to the second plane adjacent the first plane, according to the rotation of the selection object, and performs reproduction and display of the first and the second audio data in accordance with the movements of the positions of the first and the second planes.

48. (Previously Presented) The data selection executing device as defined in Claim 15, wherein there is provided a data reproducing-displaying means, which, when data corresponding to each plane of the three-dimensional rotation body object are data including sound data, performs reproduction and display of corresponding data in conjunction with a display of the selecting object and which has a first audio data audio source corresponding to the first plane which faces front the most on the display screen and the second audio data audio source position corresponding to the second plane adjacent the first plane, according to the rotation of the selection object, and performs reproduction and display of the first and the second audio data in accordance with the movements of the positions of the first and the second planes.